

The Office Action rejected Claims 1-2 and 4 under 35 U.S.C. § 102(b) as being anticipated by Hwang et al. (U.S. Patent No. 956,141; hereinafter "Hwang"). In addition, the Office Action also rejected Claim 3 under 35 U.S.C. § 103(a) due to the doctrine of obviousness in view of both Hwang and Song (U.S. Patent No. 5,760,420). Applicant respectfully submits that the pending application and claims are patentable for at least the following reasons.

Applicant's Claim 1 recites: "A semiconductor device with an integrated CMOS circuit with NMOS and PMOS transistors having semiconductor zones which are formed in a silicon substrate and which adjoin a surface thereof, which surface is provided with a layer of gate oxide on which gate electrodes are formed at those areas of the semiconductor zones which form gate zones of these transistors, such that the gate electrodes of the PMOS transistors are formed in a layer of p-type doped polycrystalline silicon and a layer of p-type doped polycrystalline silicon-germanium ($\text{Si}_{1-x}\text{Ge}_x$; $0 < x < 1$) situated between said polycrystalline silicon layer and the gate oxide, characterized in that the gate electrodes of the NMOS transistors are formed in a layer of n-type doped polycrystalline silicon without germanium."

The Office Action states that based on the examples in Hwang, at c. 1, lines 43-50, the PMOS transistors in Hwang are identical

to the Applicant's except that Hwang does not disclose germanium situated in the gate oxide. However, Hwang does not inherently recite Applicant's invention.

→ Hwang fails to specifically disclose a PMOS transistor with a layer of p-type doped polycrystalline silicon-germanium. Hwang does mention that in general, the bandgap material is selected from a group of TiN, Si-Ge, titanium silicide or a combination thereof. However, in c. 1, lines 44-46, Hwang does not describe the makeup of the p-type doped layer. In addition, in c. 3, lines 25-40, Hwang only states that Ge or GeAs can be substituted for the thin film in the bandgap layer. Hwang does not disclose a p-type layer doped with polycrystalline silicon-germanium. Consequently, Hwang fails to recite every element of claim 1. Claim 1 is believed patentable over Hwang for at least these reasons.

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other
alternatives
Claims 2-4 depend from independent Claim 1 above and are believed patentable for at least the same reasons. However, each is also deemed to define an additional aspect of the invention, and should be individually considered on its own merits.

In addition, Applicant believes the 35 U.S.C. § 103(a) rejection of Claim 3 to be moot in light of the above remarks. Applicant respectfully requests withdrawal of the § 103 rejection.

In view of the foregoing amendments and remarks, it is respectfully submitted that the currently-pending claims are

clearly patentably distinguishable over the cited and applied references. Accordingly, entry of this amendment, reconsideration of the rejections of the claims over the references cited, and allowance of this application is earnestly solicited. Applicant's agent can be contacted at the number below.

Respectfully submitted,

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